

**The Limits of Competition in Defense Acquisition**  
**Defense Acquisition University Research Symposium, September 2012**

**CREATING THE ENVIRONMENT FOR CONTINUOUS COMPETITION**

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## **ABSTRACT**

Utilizing the Consolidated Interim Single Channel Handheld Radio (CISCHR) contract as a successful example, this paper is intended to illustrate the benefits of continuous competition using a strategy derived for a specific product from market based analysis.

Keywords: CISCHR, competition strategies, delivery order, IT Box

## **ACKNOWLEDGEMENTS**

My time as the provisional Product Manager, Competitive Alternative Acquisition Products (CAAP), was the best acquisition learning experience of my career. Many of the ideas in this paper were derived from experiences and discussions during my two and a half years as the Product Manager.

I want to first thank my bosses, Colonel John Zavarelli, former Project Manager, Handheld, Manpack, Small Form Fit (HMS), and his deputy, Victor Popik, for giving me the flexibility and autonomy to try new things and push the bounds of doctrinal acquisition processes. Second, and foremost, I want to thank the CAAP team especially Rob Keller, Jolene Hollingshead, Krunal Amin, and Bob Whitney. In my 20-year career I've rarely had the pleasure of working with such motivated, intelligent, innovative, and supportive team. We illustrated the concept that a good team is better and smarter than any one person. It was my pleasure and honor to lead such an exceptional group of people.

"The achievements of an organization are the results of the combined effort of each individual."  
Vince Lombardi

## INTRODUCTION

The memorandum, “Better Buying Power: Guidance for Obtaining Greater Efficiency and Productivity in Defense Spending” (USD (AT&L), 2010) highlights the Government’s interest in efficiencies to offset the stated likelihood of serious budget cuts. “To put it bluntly: we have a continuing responsibility to procure the critical goods and services our forces need in the years ahead, but we will not have ever-increasing budgets to pay for them. We must therefore strive to achieve what economists call productivity growth: in simple terms, to DO MORE WITHOUT MORE.” (USD (AT&L), 2010). One of the efficiencies referred to is realized through competition. “Real competition is the single most powerful tool available to the Department to drive productivity.” (USD (AT&L), 2010). The increased focus on competition, and its implied cost savings, is a potential solution to the problem of having to “do more without more”.

Developing a true competitive environment that generates cost efficiencies requires an analysis to determine the appropriate balance between cost, productivity, and technological innovation. If there is no balance, then cost efficiency in one area may lead to higher costs in another, such as testing or sustainment costs. A competition strategy may require more than a one-time simple contract competition to be truly effective. “Real competition is to be distinguished from a series of directed buys or other contrived two-source situations which do not harness the full energy of competition.” (USD (AT&L), 2010). The program’s development of a product and a market based competition strategy are key to achieving cost savings. The competition strategy should also provide an environment with a foundation for continuous competition so that the benefits of competition are realized throughout the life of the contract.

The Consolidated Interim Single Channel Handheld Radio (CISCHR) contract is one example of an optimized competition strategy with a balance between cost, productivity and technological innovations. Initiated in 2007, the CISCHR contract provided a contract vehicle for the Joint Services to procure Government-off-the-shelf (GOTS) and non-developmental software-defined tactical handheld radios. Over the life of the contract, CISCHR achieved an average of over 40% cost savings from the contractual ceiling prices due to delivery order competitions. “To date, 166,393 radios have been or are in the process of being delivered to the Services and NATO countries through the CISCHR contract. Over \$942.7M have been placed on contract at a realized savings of more than \$898.6M compared to the contractually authorized ceiling prices.” (JPEO JTRS, 2012, p 29).

CISCHR was a firm fixed price, indefinite delivery/indefinite quantity (IDIQ) multiple award contract. It allowed for delivery order competitions between the vendors awarded a contract. Individual competition strategies for delivery order competitions could be tailored based on the unique Service requirements. The competition options included lowest price technically acceptable (LPTA) (the lowest price vendor won the entire delivery order), best value (price was

not the most important consideration for award), and split procurement (the delivery order award was split between the vendors based on documented criteria). Non-competitive sole source awards (direct award to one vendor based on Service stated requirement) were also allowed if the requirements in FAR 16.505(b) for fair opportunity exemption were met.

The CISCHR competition strategy was successful because of the type of product, the available market (both customers and vendors), and the use of the technology insertion clause. The more than 40% cost savings was achieved through a continuous competitive environment built on delivery order competitions. Competition also influenced productivity with some deliveries taking less than 60 days from initial order requirement identification to delivery. Competition also influenced the vendors to enhance their products' current performance envelope, and develop new capabilities to ensure their continued competitiveness. "As the warfighters' needs changed, the CISCHR project office was able to adapt and provide options to introduce technology that was not on the original contract by exercising the contracts' technology insertion clause..." (JPEO JTRS, 2012, p 30).

Although this paper could be used as a point of discussion for any contract competition, its primary focus is on supply contracts similar to the CISCHR contract. The paper is intended to illustrate the benefits of continuous competition using a strategy derived for a specific product from market based analysis.

## **DEFINING EFFECTIVE COMPETITION**

Before exploring the advantages and disadvantages of competition, it is necessary to define competition and identify the different types of competition strategies. The Federal Acquisition Regulation (FAR) defines "Effective competition" as "a market condition that exists when two or more contractors, acting independently, actively contend for the Government's business in a manner that ensures that the Government will be offered the lowest cost or price alternative or best technical design meeting its minimum needs." (FAR part 34.001).

The most commonly thought of competition is for a contract where there is a single competition with one winner that "takes all". Typically, these are "full and open" competitions where any vendor could submit a proposal in response to a solicitation, but only one vendor is awarded a contract. This type of competition provides low administrative contract management and a competitive price over the life of the contract. Lesser known is the multiple award contract that typically uses a multi-layered competition strategy. The first layer of competition is for the base contract where, depending on the source selection criteria, more than one vendor will be awarded a contract. Then the awarded vendors compete for each delivery or task order for the second layer of competition. This type of competition strategy requires more effort to manage, however, the cost savings realized through competition far exceeds the administrative costs to manage the effort. In five years, the CISCHR project saved \$898.6M while incurring approximately \$6.6M

in labor cost to administer (less than 1% of the procurement savings). In order to win a delivery order competition, vendors are motivated to always offer their products at competitive prices lower than the contractually allowed ceiling price, thus generating increased savings for the Government.

The competition strategy must fit the product and the market. For example, the competition strategy for an F-22 would likely not be the same as tactical radio systems. F-22s are more expensive and harder to develop and produce. Although beneficial for tactical radios, delivery order competitions probably wouldn't be an effective competition strategy for an F-22 contract. Nevertheless, the market analysis may determine that components of the F-22 are ideal for a delivery order competition strategy. The market analysis could show that there are numerous vendors who are or could produce a specific component. In addition, the acquisition strategy and known customer base for that component would support multiple or multi-layered competitions.

There are many elements that will have an effect on or help create effective competition and a continuous competitive environment. These could include, but are not limited to, the market availability, type of product, available funding, agile contracting, and acquisition strategies. Each element is a puzzle piece that creates both the bigger picture strategy and the balance that will achieve cost savings. A templated or mandated competition strategy restricts the flexibility to adapt to changing technologies and subsequently ignores specific product and market information. "...Previous research has suggested that decision-makers often make choices based on techniques and practices that have been used successfully in the past rather than by examining all possible methods and using a systematic selection process." (Menches, 2010, p3). For effective competition, the strategy must be determined on a case-by-case basis.

## **BENEFITS OF COMPETITION**

On a small scale, the CISCHR contract highlighted many of the benefits of competition both at the initial contract award and during subsequent delivery order competitions. "Those competitions drive significant procurement savings for the military services." (JPEO JTRS, 2012, 30). The CISCHR contract was intended to consolidate the Services' multiple GOTS tactical handheld radio procurements. Prior to contract award, each Service was procuring radios individually based on immediate requirements and funding availability. They were achieving very little, if any, cost savings compared to market rates. The contract award provided the Services a consolidated contract where, ceiling costs of the products were negotiated to be below market rates and delivery order competitions provided additional cost savings.

Cost savings, though, are only one benefit of competition. Continuous technology improvement is another. However, there are two effects of independent vendor technology development; one is positive and the other is negative. While the Government benefits from a competitive environment, the vendors prefer a sole source environment because they are able to propose



ceiling prices for the order. Vendors attempt to separate themselves from their competitor(s) and create a sole source environment by enhancing, improving, or adding capability to their product that exceeds contract requirements. Their business model is to gauge emerging operational requirements and expend their own research and development (R&D) funding to respond to the need. They gamble on being able to quickly recoup their investment by beating their competitors to market and creating a sole source environment. There is therefore a delicate balance between the Government benefitting from the availability of new technology without investing R&D funding and having to pay sole source pricing until the competing vendor(s) catch up. The CISCHR radios enjoyed the benefits of optimized and improved performance because of the vendors' own investments. This included hardware and software changes. "The software of the system has changed over 25 times over the past five years for both systems to accommodate new capability, provide minor improvements and provide bug fixes to the Operating Environment and the already mature waveforms software." (JPEO JTRS, 2012, 30). Utilization of the contract's technical insertion clause allowed the contract to be modified to add Contract Line Item Numbers for new software such as the Integrated Waveform (IW) for beyond line-of-sight satellite communications and new hardware such as retransmission adapters and amplifiers, and a maritime variant of the radios.

Having multiple vendors produce the identical or functionally equivalent products improves the industrial base, eliminates single points of failure in production, and reduces the necessity of sole sourcing and ultimately saves taxpayer money. An improved industrial base eliminates single vendor monopolies over specific products and designs that inevitably force the Government into sole source contracts and dramatically increase costs. "Further, our procurements need to be structured to sustain competition by avoiding contract approaches that, following initial competition, would eventually leave us in a sole-source environment." (ASN (RD&A), 2010). Multiple vendors also reduce the likelihood of production delays. If one vendor is having production issues or a product failure then another vendor could theoretically make up the necessary production quantities.

## **INHIBITORS TO COMPETITION**

Despite the recognized benefits and the mandated requirements for competition in Government acquisition, there are many inhibitors that preclude effective competition. Policies, regulations, requirements, and funding are just a few broad areas. There are also secondary effects to competition that could increase cost and reduce the amount of competition during product acquisition.

Policies and regulations can affect the amount of competition available on any given contract or product. For example, for software-defined radios there is a mandated requirement for the National Security Agency (NSA) to certify the radios for secure over-the-air transmission. There

is also a statutory requirement that an Operational Test Authority (OTA) positively evaluate the radios in an operational test (10 USC 2399). These are only two examples out of many. Additionally, the examples do not illustrate all of the steps required to achieve the final requirement. In most cases, NSA certification is minimally a multi-million dollar, year long process. Because of the prerequisites, the operational test will be a multi-year process with significant cost incurred for testing.

When analyzed separately, all of the individual regulations and policies surrounding a contract are justified and warranted to ensure the Warfighters are receiving a reliable product at a reasonable cost. However, when paired with the requirement for competition, these regulations and policies become inhibitors. Overcoming inhibitors like these can increase costs or lengthen the schedule. They also increase risk to the program's success because any failure will affect cost and schedule.

Product requirements can also prove to be inhibitors to competition. Too many or overly restrictive requirements will most likely reduce the number of competitive vendors available. In order to effectively compete products for contract award, the program must determine the minimum Warfighter requirement for the contract. Other desired features or capabilities can be added as objective requirements, used as criteria in best value competition, or added as future threshold requirements in an evolutionary development process. The CISCHR contract was founded on the convergence of Warfighter tactical handheld radio requirements with technological market availability and, therefore, created a competitive environment.

Available program funding can be an inhibitor to competition, and cost increases in other parts of the program may be a secondary effect of competition. For example, funding limitations may make it impossible to sponsor more than one vendor through the mandated operational testing required to qualify for a contract award opportunity. With the tactical radios, a program may have to spend \$10-15M for an operational test for each additional vendor interested in competing for a contract award. (JPEO JTRS, 2012, p23). Sustainment cost could also increase for each additional vendor, especially if ancillaries and accessories are not interchangeable between vendors. Training is also a consideration when the human machine interface (HMI) is not the same for different vendors' functionally equivalent products causing not only training cost increases but also operational concerns. While competition may provide significant cost savings during the procurement of a product, the competition may cause cost increases in other phases or areas of the acquisition such as testing, training and lifecycle sustainment. These potential savings and additional costs should be weighed to ensure there is a net savings attained through competition.

## **CONTINUOUSLY COMPETITIVE ENVIRONMENT**

The perfect competition strategy would be well informed (using Requests For Information and market research events) of the gap between current market capabilities and Warfighter requirements. From the inception of the program, funding provisions must be considered during competition strategy development that will support multiple vendors and multiple contract competitions. The perfect competition strategy would also include frequent competitions during the development, testing, and fielding of the product to close the capability/requirement gap utilizing a streamlined, agile contracting process. The program would continue to foster the competitive environment with testing and demonstrations for non-contracted vendors and, therefore, create a robust industrial base and a foundation for innovative improvements and capability insertions to the product. The strategy would even incorporate ways for the vendors to share the costs with the Government. This perfect situation is certainly idealistic and may even be unrealistic given the regulated process for contracting and budget forecasting. Nevertheless, there are ways for programs to create a foundation for a continuously competitive environment.

CISCHR had a largely successful competition strategy because of the nature of the product and market availability. The initial base contract and subsequent delivery order competitions worked for software-defined tactical handheld radios, but it may not be the optimum strategy for other products. Another idea that would foster competition is shortening the length of the contracts and re-competing the effort more often, possibly at major milestones or sooner, in order to address rapidly changing Warfighter requirements, technological developments and market conditions. Contract “on-ramps” allow for initial competition and contract award to be followed by future awards to other vendors who were not qualified in time for the initial award. “Multiple award IDIQ contracts may be up to five years if on-ramp provisions are included to refresh/update the competitor pool.” (USD (AT&L), 2010).

It is possible to also have a few smaller contracts and separately compete components or accessories. This would likely provide cost savings and enable the use of small businesses within the program. “Additionally, program managers and contracting officers should ensure that our acquisition strategies give the Navy the flexibility to break out components from our systems and procure them directly when it makes sense to do so.” (ASN (RD&A), 2010). This solution is dependent upon a flexible schedule or a streamlined contracting process as the program would likely have to implement more than one contract concurrently.

The Joint Requirements Oversight Counsel’s (JROC) Information Technology (IT) Box initiative is another potential model to improve competition. Although IT Box is specifically oriented to information system (IS) software development and Commercial-off-the-shelf (COTS) hardware, it is potentially a requirements model that could enhance future competition for other products. (Willis, 2012, p 6). IT Box is intended to “provide agile and responsive requirements/capability needs process to enable rapid development of IS capabilities.” (Willis, 2012, p 6). This model could enable more opportunities for competition and more competitors. “Using identified measures of effectiveness (MOEs) the model identifies initial minimum, instead of thresholds and objectives, allowing for rapid capability development within specified funding limits.”

(JCIDS Manual, 2012, p B-15). With only minimum requirements identified, the program has flexibility to tailor the contract's technical requirements to the market and provide for additional capabilities as they become available.

## **CONCLUSION**

Effective competition strategies require a large picture view and analysis of the acquisition processes and those policies and regulations that inhibit competition. The IT Box concept is one idea that enables competition by defining the initial minimum requirements and allowing flexibility for future capability. In the future, it could conceivably be a requirements generation model for other product types such as software-defined tactical radio systems.

A continuously competitive environment is ideal for Government acquisition to increase savings and provide vendors multiple and frequent opportunities to compete. The benefits of competition are well known, but must be tailored to the product and the market in order to be truly effective. Multi-layered or frequent competitions are one way to maintain a continuously competitive environment gaining even greater cost savings as well as other benefits. The CISCHR contract success with over 40% cost savings as compared to the contractually authorized ceiling prices is one example of how a continuously competitive environment provides cost savings, a robust industrial base, technological improvements or capability enhancements.

## **AUTHOR'S BIOGRAPHY**

Lieutenant Colonel (Retired) Elizabeth Bledsoe is a Distinguished Military graduate from the Marshall University ROTC program. She was commissioned and graduated with a BA in Anthropology in May 1992. LTC Bledsoe received her first Masters in Computer Information Systems in December 2000 from the University of Phoenix and her second Masters in Military Arts and Science from Command and General Staff Officers School.

LTC Bledsoe was branched Signal Corps and her assignments included: Platoon Leader and Executive Officer in the 40<sup>th</sup> Signal Battalion, 11<sup>th</sup> Signal Brigade where she was also deployed to Somalia and Haiti; Assistant Professor of Military Science, Arizona State University ROTC; Plans/Operations Officer, United States Army Europe (USAREUR), Office of the Deputy Chief of Staff Information Management (ODCSIM); Company Commander, Headquarters and Headquarters Company, 7<sup>th</sup> Signal Brigade, Mannheim, Germany.

LTC Bledsoe was selected for the Army Acquisition Corps in January 2002. Her Army Acquisition assignments started at the Defense Threat Reduction Agency followed by Army Human Resources Command, and finally the Joint Program Executive Office (JPEO) Joint Tactical Radios Systems (JTRS). LTC Bledsoe was the provisional Product Manager for the Competitive Alternative Acquisition Products office under the JPEO's Handheld, Manpack, Small Form Fit program.

LTC Bledsoe retired from the Army on August 1, 2012.

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# Creating the Environment for Continuous Competition

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# CSCHR Introduction

## Consolidated Single Channel Handheld Radio

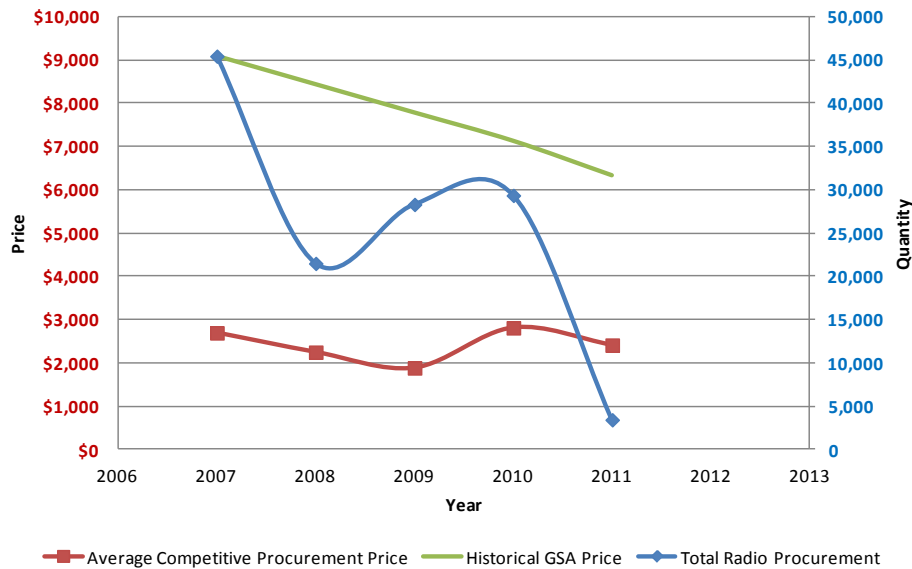
- Software Defined Tactical Handheld Radio Contract:
  - Lowest Price Technically Acceptable (LPTA)
  - Firm Fixed Price (FFP)
  - Indefinite Delivery/Indefinite Quantity (IDIQ)
  - Multiple Award
- Delivery order competitions between awarded vendors:
  - LPTA
  - Best Value
  - Split Awards
  - Sole Source



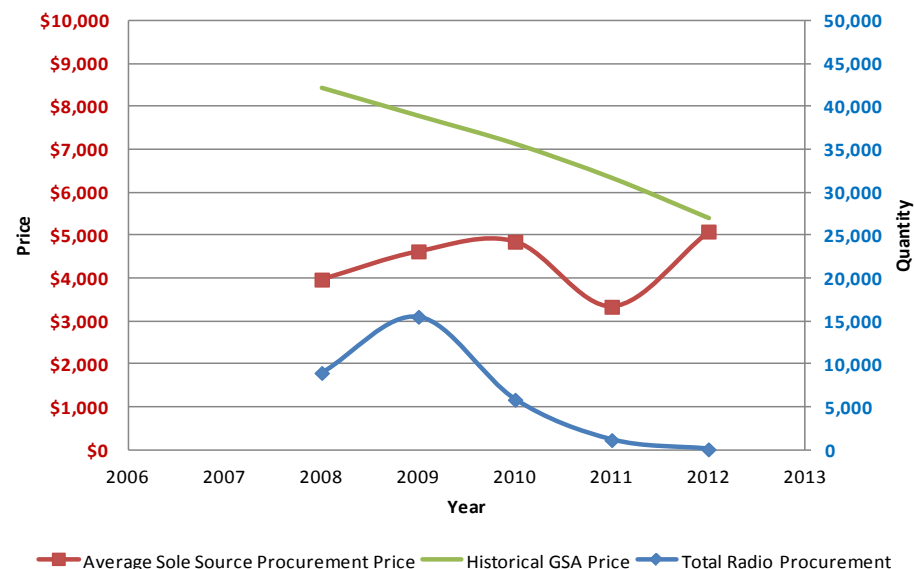
# CSCHR Cost Savings

Average of 40% cost savings over the life of the contract

**Competitive Procurement - Average Price and Quantity of Radios Procured per Year**



**Sole Source Procurement - Average Price and Quantity of Radios Procured per Year**

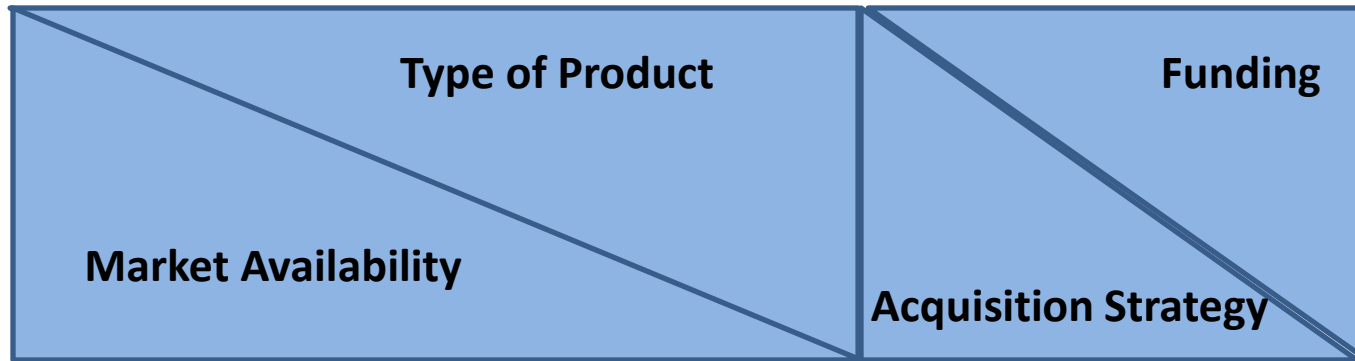


Figures copied from Joint Program Executive Office (JPEO) Joint Tactical Radio Systems (JTRS) (2012). "Rifleman Radio Full Rate Production Competition Plan Business Case Analysis". p 30-31.

# Defining Effective Competition

- Competition strategies tailored to the product and the market
- Considerations for competition strategy:
  - Product
  - Market
  - Type of competition
  - Length of contract
  - Ability to “ramp-on” more vendors
  - Technology improvements/expected progression
  - Required contract award date

# Competition Strategy



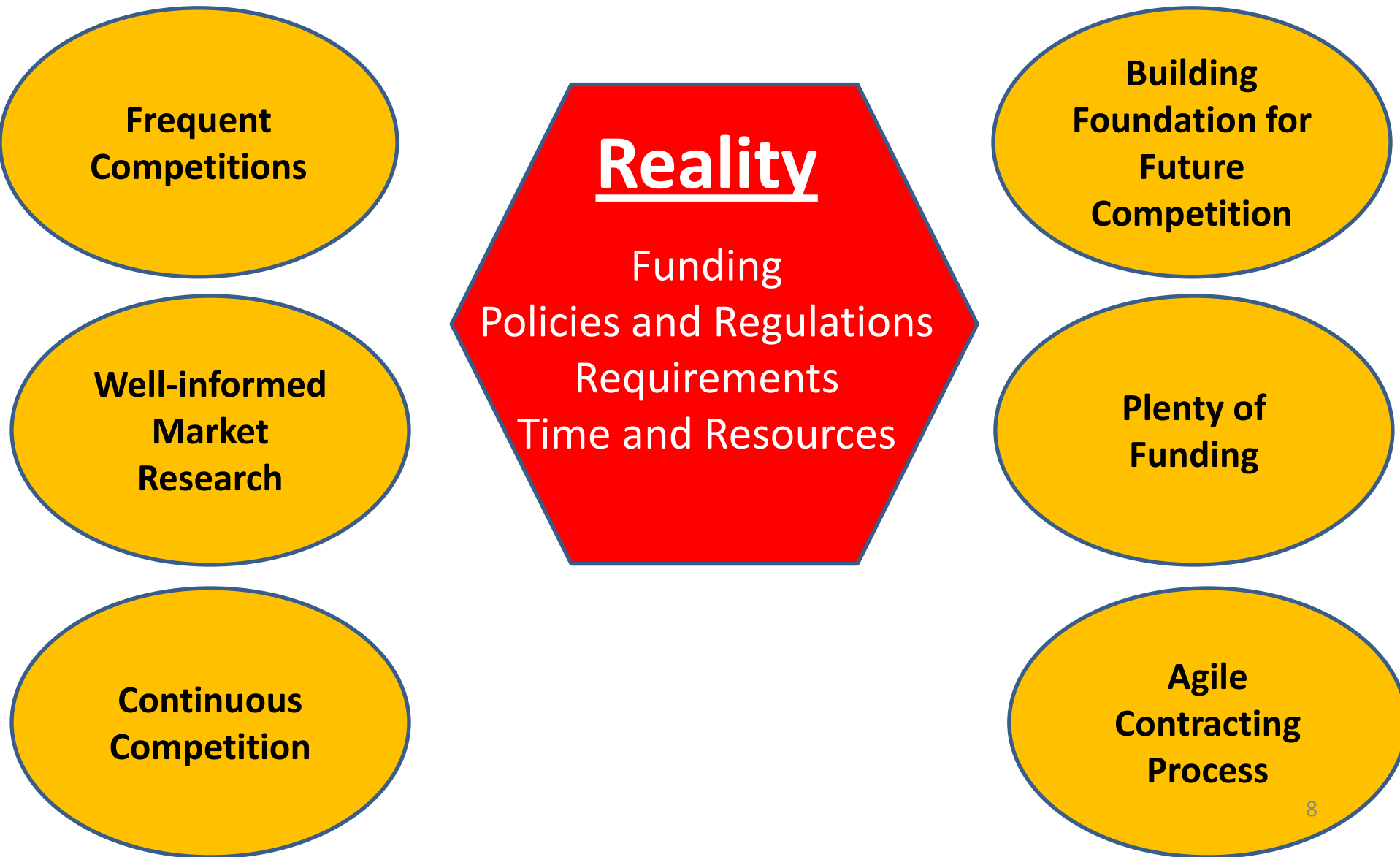
# Benefits of Competition

- Cost savings
- Technology improvements/innovations
- Robust industrial base
  - Reduce sole sources
  - Eliminate single points of failure
  - Eliminate dependency on one vendor

# Inhibitors to Competition

- Funding
- Policies and Regulations
- Requirements
- Time and Resources

# Perfect Competition Strategy



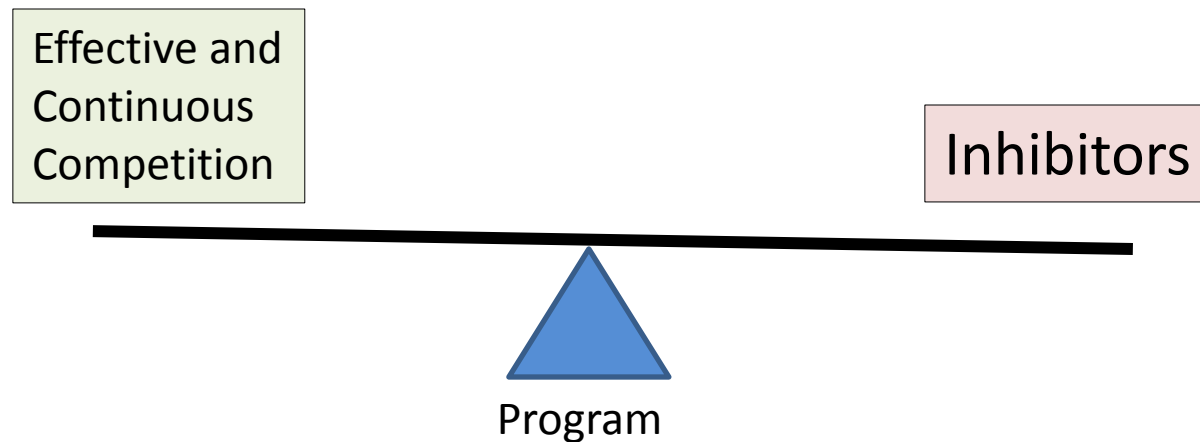
# Continuously Competitive Environments

- Multiple award contracts
- Frequent competitions
- “Ramp-on” opportunities
- Engage non-contracted vendors
- IT Box as a model and expand



# Conclusions

- Each program and contract is unique
- Tailor competition strategies to mitigate competition inhibitors







Questions?